F793X Series User Manual

The user manual is suitable for the following model:

Model	Product Type
F7930	GPS+GPRS/CDMA ROUTER
F7931	GPS+EVDO/EVDO ROUTER
F7932	GPS+WCDMA/WCDMA ROUTER
F7933	GPS+WCDMA/EVDO ROUTER

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Date	Version	Remark	Author

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Chapter 1 Brief Introduction of Product

1.1 General

F793X series ROUTER is a kind of cellular terminal device that provides data transfer function by public cellular network. Also, it supports double link backup and GPS function

It adopts high-powered industrial 32-bits CPU and embedded real time operating system. It supports RS232 (or RS485/RS422) and Ethernet port that can conveniently and transparently connect one device to a cellular network, allowing you to connect to your existing serial and Ethernet devices with only basic configuration.

It has been widely used on M2M fields, such as intelligent transportation, smart grid, industrial automation, telemetry, finance, POS, water supply, environment protection, post, weather, and so on.

1.2 Features and Benefits

Design for Industrial Application

- High-powered industrial cellular module
- High-powered industrial 32bits CPU
- High-powered industrial GPS module
- Support low-consumption mode, including sleep mode, scheduled online/offline mode, scheduled power-on/power-off mode(optional)
- Housing: iron, providing IP30 protection
- Power range: DC 5~35V

Stability and Reliability

- Support hardware and software WDT
- Support auto recovery mechanism, including online detect, auto redial when offline to make router always online
- Ethernet port: 1.5KV magnetic isolation protection
- RS232/RS485/RS422 port: 15KV ESD protection
- SIM/UIM port: 15KV ESD protection
- Power port: reverse-voltage and overvoltage protection
- Antenna port: lightning protection(optional)

Standard and Convenience

- Support standard RS232(or RS485/RS422) and Ethernet port that can connect to serial and Ethernet devices directly
- Support standard WAN port and PPPOE protocol that can connect to ADSL directly
- Support intellectual mode, enter into communication state automatically when powered

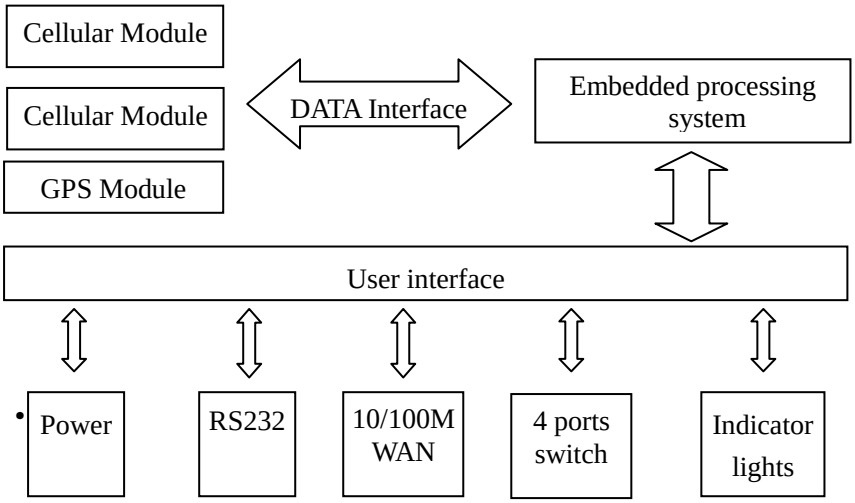
- Provide management software for remote management
- Support several work modes
- Convenient configuration and maintenance interface（WEB or CLI）

High-performance

- Support data transfer and GPS function
- Support NTP server(optional)
- Support double link backup between two cellular networks
- Support triple link backup among cellular, cellular and WAN(PPPOE, ADSL) (optional)
- Support VPN client(PPTP, L2TP, IPSEC and GRE)(only for VPN version)
- Support multi online trigger ways, including SMS, ring and data. Support link disconnection when timeout
- Support APN/VPDN
- Support wireless video monitoring and dynamic picture transfer
- Support DHCP server and client, DDNS, firewall, NAT, DMZ host, etc.
- Support multi protocols, such as TCP/IP, UDP, ICMP, SMTP, HTTP, POP3, OICQ, TELNET, FTP, SNMP, etc.

1.3 Working Principle

The principle chart of the router is as following:



1.4 Specifications

Cellular Specification

Standard and Band	Bandwidth	TX power	RX sensitivity
F7930 GPS+GPRS/CDMA ROUTER			
GPRS:			

EGSM900/GSM1800MHz, GSM850/900/1800/1900MHz(optional) Compliant to GSM phase 2/2+ GPRS class 10, class 12(optional)	85.6Kbps	GSM850/900： <33dBm GSM1800/1900： <30dBm	<-107 dBm
CDMA: CDMA2000 1xRTT 800MHz 800/1900MHz(optional) 450MHz(optional)	153.6Kbps	<30dBm	<-104 dBm
F7931 GPS+EVDO/EVDO ROUTER			
CDMA2000 1X EVDO Rev A 800MHz,800/1900MHz(optional) 450MHz (optional) CDMA2000 1X RTT, IS-95 A/B	Download speed:3.1Mbps Upload speed:1.8Mbps	<23dBm	<-104 dBm
F7932 GPS+WCDMA/WCDMA ROUTER			
UMTS/WCDMA/HSDPA/HSUPA 850/1900/2100MHz, 850/900/1900/2100MHz(optional) GSM850/900/1800/1900MHz GPRS/EDGE CLASS 12	HSUPA:5.76Mbps (Upload speed) HSDPA:7.2Mbps (Download speed) UMTS:384Kbps (DL/UL)	<24dBm	<-109 dBm
F7933 GPS+WCDMA/EVDO ROUTER			
WCDMA: UMTS/WCDMA/HSDPA/HSUPA 850/1900/2100MHz, 850/900/1900/2100MHz(optional) GSM850/900/1800/1900MHz GPRS/EDGE CLASS 12	HSUPA:5.76Mbps (Upload speed) HSDPA:7.2Mbps (Download speed) UMTS:384Kbps (DL/UL)	<24dBm	<-109 dBm
EVDO: CDMA2000 1X EVDO Rev A 800MHz,800/1900MHz(optional) 450MHz (optional) CDMA2000 1X RTT, IS-95 A/B	Download speed:3.1Mbps Upload speed:1.8Mbps	<23dBm	<-104 dBm

GPS Specification

Item	Content
GPS Module	Industrial GPS module
Receiver Type	50-channle GPS L1（1575.42MHz）C/A code SBAS: WAAS,EGNOS,MSAS,GAGAN Support GALILEO
Max. update rate	4 Hz
Accuracy	Position: 2.5m CPE SBAS: 2.0m CPE

Acquisition	Cold starts: 29S Warm starts: 29S Aided starts: <1S Hot starts: <1S
Sensitivity	Tracking: -160dBm Reacquisition: -160dBm Cold starts: -144dBm
Timing accuracy	RMS: 30ns 99%: <60ns Granularity: 21ns
Time pulse	Configurable, 0.25 to 1000Hz

Hardware System

Item	Content
CPU	Industrial 32bits CPU
FLASH	4MB(Extendable to 16MB)
SDRAM	32MB(Extendable to 64MB)

Interface Type

Item	Content
WAN	1 10/100 Mbps WAN port(RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection
LAN	4 10/100 Mbps Ethernet ports(RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection
Serial	1 RS232(or RS485/RS422) port, 15KV ESD protection Data bits: 5, 6 ,7, 8 Stop bits: 1, 1.5, 2 Parity: none, even, odd, space, mark Baud rate: 110~230400 bps
Indicator	"Power", "System", "Online-1", "Online-2", " Local Network ", "WAN", "GPS"
Antenna	Cellular: 2 standard SMA female interfaces, 50 ohm, lighting protection(optional) GPS: standard SMA female interfaces, 50 ohm, lighting protection(optional)
SIM/UIM	2 standard 3V/1.8V user card interfaces, 15KV ESD protection
Power	Standard 3-PIN power jack, reverse-voltage and overvoltage protection
Reset	Restore the router to its original factory default settings

Power Input

Item	Content
Standard Power	DC 12V/1.5A
Power Range	DC 5~35V
Consumption	<500mA (12V)

Physical Characteristics

Item	Content
Housing	Iron, providing IP30 protection
Dimensions	206x135x28 mm
Weight	805g

Environmental Limits

Item	Content
Operating Temperature	-25~+65℃（-13~+149℉）
Extended Operating Temperature	-30~+75℃（-22~+167℉）
Storage Temperature	-40~+85℃（-40~+185℉）
Operating Humidity	95% (Non-condensing)

Chapter 2 Installation Introduction

2.1 General

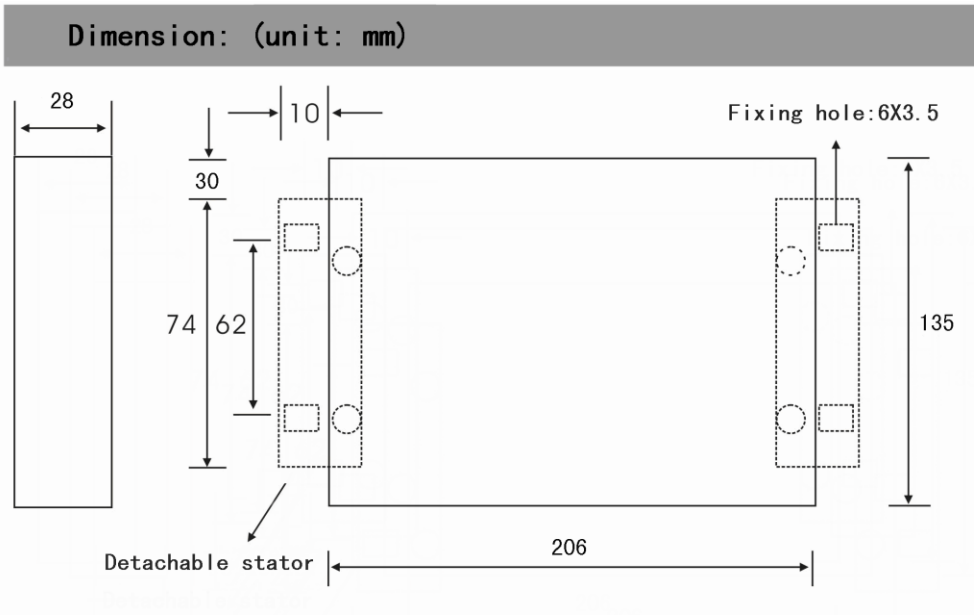
The router must be installed correctly to make it work properly.

Warning: Forbid to install the router when powered!

2.2 Encasement List

Name	Quantity	Remark
Router host	1	
Cellular antenna (Male SMA)	2	
GPS antenna (Male SMA)	1	
Network cable	1	
Console cable	1	optional
Power adapter	1	
Manual CD	1	
Certification card	1	
Maintenance card	1	

2.3 Installation and Cable Connection



Installation of SIM/UIM card:

SIM/UIM-1: For the main link

SIM/UIM-2: For the backup link

Model	SIM/UIM Type
F7930 GPS+GPRS/CDMA ROUTER	SIM/UIM-1: GPRS(main link) SIM/UIM-2: CDMA(backup link)
F7931 GPS+EVDO/EVDO ROUTER	SIM/UIM-1: EVDO(main link)） SIM/UIM-2: EVDO(backup link)
F7932 GPS+WCDMA/WCDMA ROUTER	SIM/UIM-1: WCDMA(main link) SIM/UIM-2: WCDMA(backup link)
F7933 GPS+WCDMA/EVDO ROUTER	SIM/UIM-1: EVDO(main link)） SIM/UIM-2: WCDMA(backup link)）

Firstly power off the router, and press the out button of the SIM/UIM card outlet with a needle object. Then the SIM/UIM card sheath will flick out at once. Put SIM/UIM card into the card sheath (Pay attention to put the side which has metal point outside), and insert card sheath back to the SIM/UIM card outlet.

Warning: Forbid to install SIM/UIM card when powered!

Installation of antenna:

ANT-1: For the main link

ANT-2: For the backup link

Screw the SMA male pins of the two cellular antennas to the female SMA interfaces of the router with sign “ANT-1” and “ANT-2”.

Screw the SMA male pin of the GPS antenna to the female SMA interface of the router with sign “GPS”.

Warning: The cellular antenna and the GPS antenna can not be connected wrongly. And the antennas must be screwed tightly, or the signal quality of antenna will be influenced!

Installation of cable:

Insert one end of the network cable into the switch interface with sign “Local Network”, and insert the other end into the Ethernet interface of user’s device. The signal connection of network direct cable is as follows:

RJ45-1	RJ45-2
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Insert the RJ45 end of the console cable into the RJ45 outlet with sign “console”, and insert the DB9F end of the console cable into the RS232 serial interface of user’s device.

The signal connection of the console cable is as follows:

RJ45	DB9F
1	8
2	6
3	2
4	1
5	5
6	3
7	4
8	7

The signal definition of the DB9F serial communication interface is as follows:

Pin	RS232 signal name	The direction for Router
1	DCD	output
2	RXD	output
3	TXD	input
4	DTR	input
5	GND	
6	DSR	output
7	RTS	input
8	CTS	output

2.4 Power

The power range of the router is DC 5~35V.

Warning: When we use other power, we should make sure that the power can supply power above 7W.

We recommend user to use the standard DC 12V/1.5A power.

2.5 Indicator Lights Introduction

The router provides following indicator lights: "Power", "System", "Online-1", "Online-2", "Local Network", "WAN", "GPS"

Indicator Light	State	Introduction
Power	ON	Router is powered on
	OFF	Router is powered off
System	BLINK	System works properly
	OFF	System does not work
Online-1	ON	The main link has logged on network
	OFF	The main link hasn’t logged on network
Online-2	ON	The backup link has logged on network
	OFF	The backup link hasn’t logged on network
Local Network	OFF	The corresponding interface of switch is not connected
	ON / BLINK	The corresponding interface of switch is connected /Communicating
WAN	OFF	The interface of WAN is not connected
	ON / BLINK	The interface of WAN is connected /Communicating
GPS	ON	GPS is active
	OFF	GPS is not active

2.6 Reset Button Introduction

The router has a “Reset” button to restore it to its original factory default settings. When user press the “Reset” button for up to 15s, the router will restore to its original factory default settings and restart automatically.

Chapter 3 Configuration and Management

This chapter describes how to configure and manage the router.

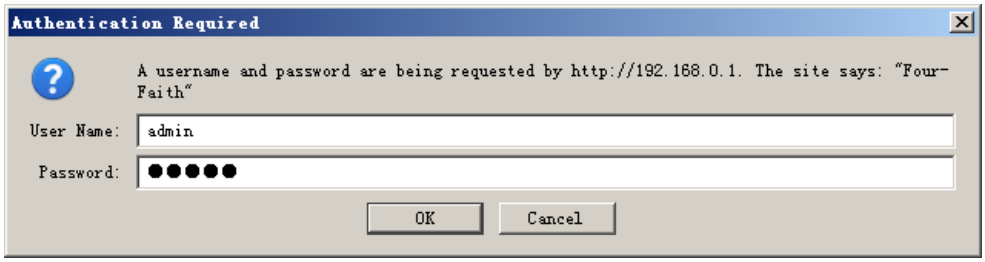
3.1 Configuration Connection

Before configuration, you should connect the router and your configuration PC with the supplied network cable. Plug the cable's one end into the Local Network port of the router, and another end into your configure PC's Ethernet port. The connection diagram is as following:

Please modify the IP address of PC as the same network segment address of the router, for instance, 192.168.1.9. Modify the mask code of PC as 255.255.255.0 and set the default gateway of PC as the router's IP address (192.168.1.1).

3.2 Access the Configuration Web Page

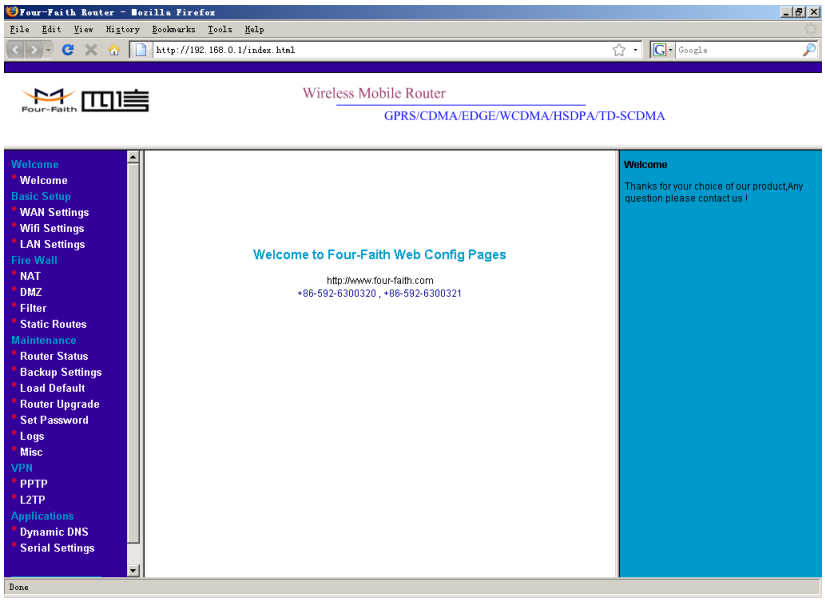
Start a web browser and type 192.168.1.1 in the Address (URL) field (The Default IP Address of the Ethernet port is 192.168.1.1). It will prompt a login page. The default username and password are both "admin". Please input the username and password login to access the configuration pages.



3.3 Configuration

3.3.1 Welcome

The "Welcome" page will give some contact information, if you have any question or problem, please contact us.



3.3.2 WAN Settings

This page is used to configure the Internet access parameters.

Internet Service Provider

This item selects the mode to access internet.

Enable WAN Failover

Enable or disable WAN Failover function. When enable this function, the router can switch the link to another one when the current link fail. When disable this function, the router access internet through WAN Wireless(Main) only.

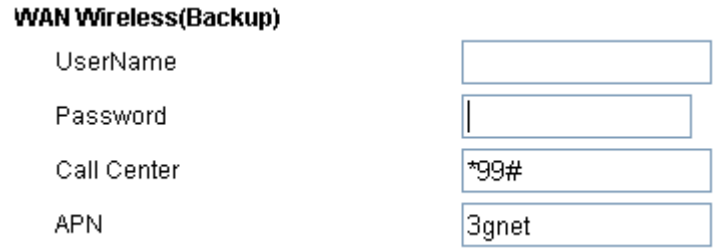
Dual Both Online

Enable or disable Dual Both Online function. When enable this function, both links are online. When disable this function, only the current link is online.

WAN Wireless(Main)

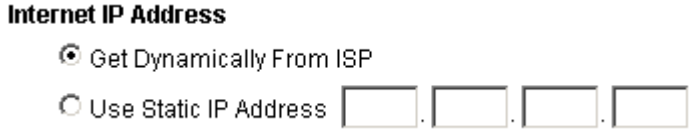
This item configures the main link to access internet.
UserName: username used to login your ISP(Internet Service Provider)
Password: password used to login your ISP
Call Center: The dial number of your ISP
APN: The access point name of your ISP

WAN Wireless(Backup)



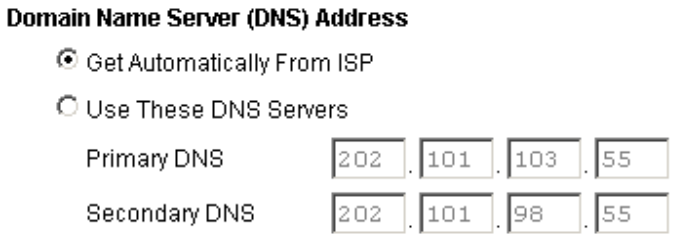
This item configures the backup link to access internet.
UserName: username used to login your ISP(Internet Service Provider)
Password: password used to login your ISP
Call Center: The dial number of your ISP
APN: The access point name of your ISP

Internet IP Address



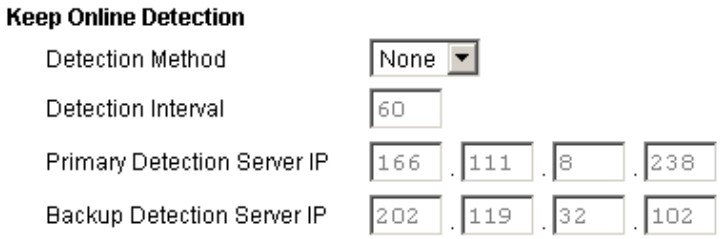
Normally, The Internet IP Address of the router is allocated by the ISP automatically, you can also fix this address if the ISP agree.

Domain Name Server (DNS) Address


Domain Name Server (DNS) Address
Get Automatically From ISP
Use These DNS Servers
Primary DNS
202 . 101 . 103 . 55
Secondary DNS
202 . 101 . 98 . 55

Normally, the Domain Name Server (DNS) Address of the router is allocated by the ISP automatically. You can also use your own DNS address. If you want to use your own DNS, please make sure the DNS address you configured is usable and stable.

Keep Online Detection



This function is used to detect whether the Internet connection is active, if you set it and when the router detect the connection is inactive ,it will redial to you ISP immediately to make the connection active.

Detection Method:

None: do not set this function

Ping: Send ping packet to detect the connection, when choose this method, you should also configure "Detection Interval", "Primary Detection Server IP" and "Backup Detection Server IP" items.

Route: Detect connection with route method, when choose this method, you should also configure "Detection Interval", "Primary Detection Server IP" and "Backup Detection Server IP" items.

PPP: Detect connection with PPP method, when choose this method, you should also configure "Detection Interval" item.

Detection Interval: The time interval between two detections, unit is second

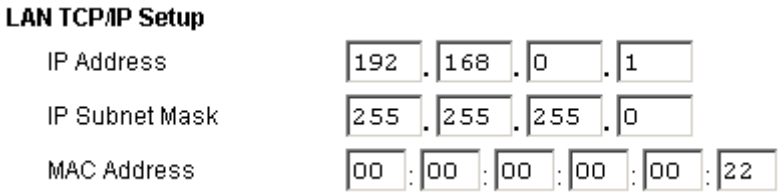
Primary Detection Server IP: The server used to response the router's detection packet. This item is only valid for method "Ping" and "Route".

Backup Detection Server IP: The server used to response the router's detection packet. This item is valid for method "Ping" and "Route".

Note: When you choose the "Route" or "Ping" method, it's quite important to make sure that the "Primary Detection Server IP" and "Backup Detection Server IP" are usable and stable, because

they have to response the detection packet frequently.

3.3.3 LAN Settings

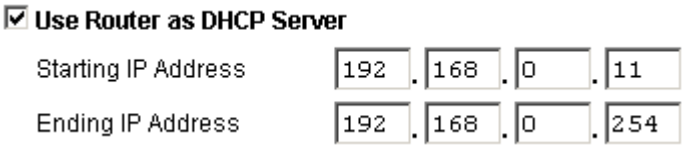


IP Address: the LAN port IP Address.

Note: If you change the LAN IP Address, you have to reboot the router to make it valid.

IP Subnet Mask: the LAN port subnet mask.

MAC Address: the LAN port Ethernet MAC Address



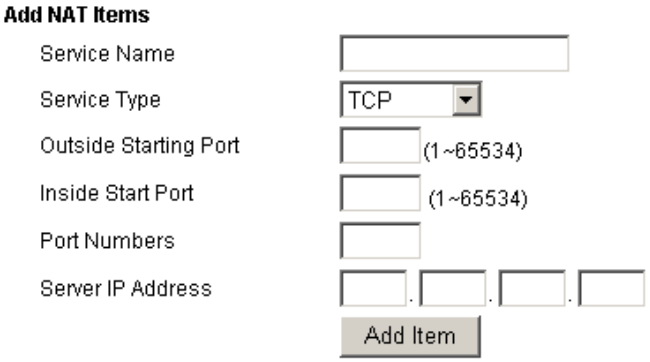
Use Router as DHCP Server: Enable or disable the router work as a DHCP server.

Starting IP Address: The starting IP Address of the DHCP server's Address pool
Ending IP Address: The ending IP Address of the DHCP server's Address pool

3.3.4 NAT

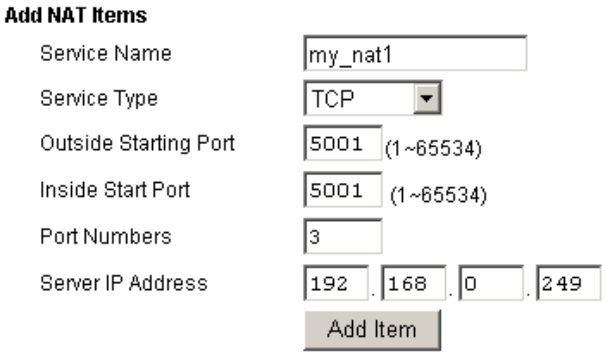
The router causes your entire local network to appear as a single machine to the Internet, You can make a local server visible and available to the Internet, This is done using the NAT (Network Address Translation). The NAT configuration page is as following:

Add a NAT item

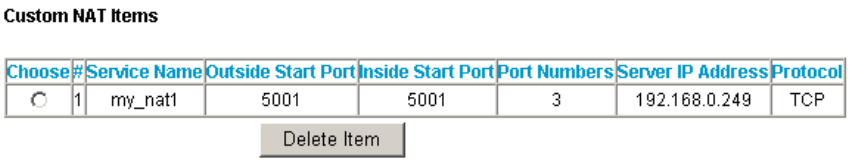


Service Name: This NAT item's name
Service Type: The protocol type of the target packet
Outside Starting Port: The target packet's destination port
Inside Start Port: The destination port of packet which has been processed by the NAT module.
Port Numbers: Port numbers which will be processed by the router.
Server IP Address: Local server IP Address.

Example:
Configure an item as following



Once adding it, The custom NAT items table will displays this item



This item will make the router process packet with the destination port from 5001 ~ 5003 (total 3 port numbers), after processed by the NAT module, the destination port will be 5001~ 5003 correspondingly and the packet will be sent to host 192.168.0.249.

Delete a NAT item

To delete a NAT item, you should choose this item and press “Delete Item” button.

3.3.5 DMZ

Incoming traffic from the Internet is normally discarded by the router unless the traffic is a response to one of your local computers or a service that you have configured in the NAT page. Instead of discarding traffic for services you have not defined, you can have it forwarded to one computer on your network. This computer is called the Default DMZ Server.

Enable DMZ: Enable or disable DMZ function.
DMZ IP: DMZ server IP Address.

3.3.6 Filter

To block some packets getting Internet access or block some Internet packets getting local network access, you can configure filter items to block these packets.

Packet Filter

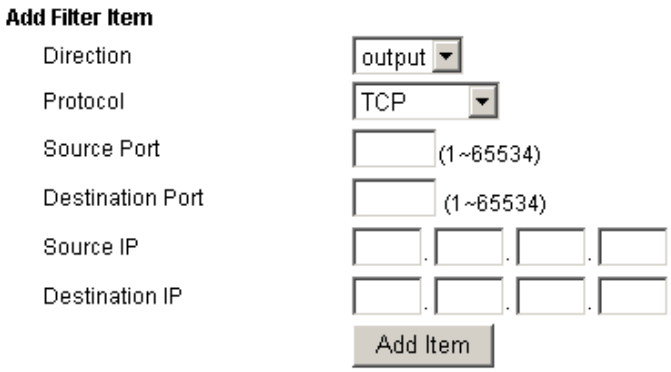
Packet filter function is realized based on IP address or port of packets.

Enable Packet Filter: Enable or disable “packet filter” function
Policy: The filter rule’s policy, you can choose the following options

Discard The Following--Discard all packets matched the custom filter rules, Accept all other packets

Only Accept The Following--Accept all packets matched the custom filter rules, Discard all other packets

Add Filter Item



Direction

input: packet from WAN to LAN

output: packet from LAN to WAN

Protocol: packet protocol type

Source Port: packet's source port

Destination Port: packet's destination port

Source IP: packet's source IP address

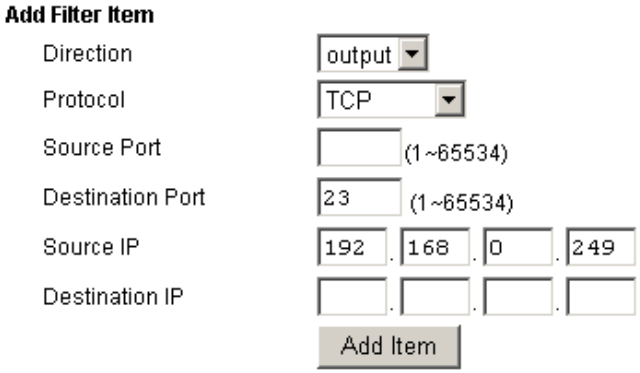
Destination IP: packet's destination IP address

Note:

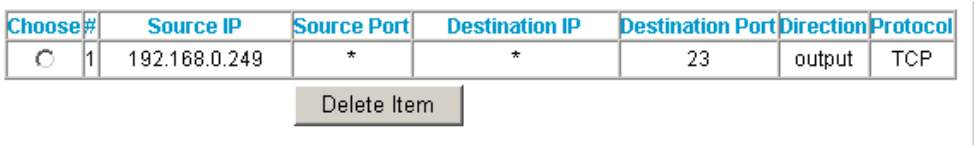
"Source Port" ,"Destination Port" ,"Source IP" ,"Destination IP" could not be all empty ,you have to input at least one of these four parameters.

Example:

If want to block local network PC 192.168.0.249 telnet(TCP port 23) to any other Internet Address ,the filter item could be configured as following:

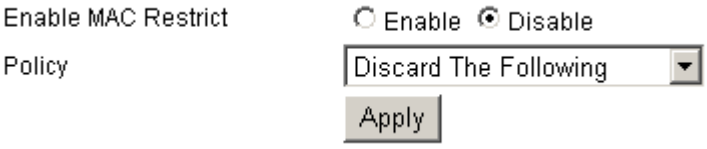


The following is the configured filter item:



MAC Restrict

This filter function is based on the Ethernet MAC address.



Enable MAC Restrict: Enable or disable MAC Restrict function

Policy:

Discard The Following -- Discard all packets matched the custom MAC Restrict rules, Accept all other packets

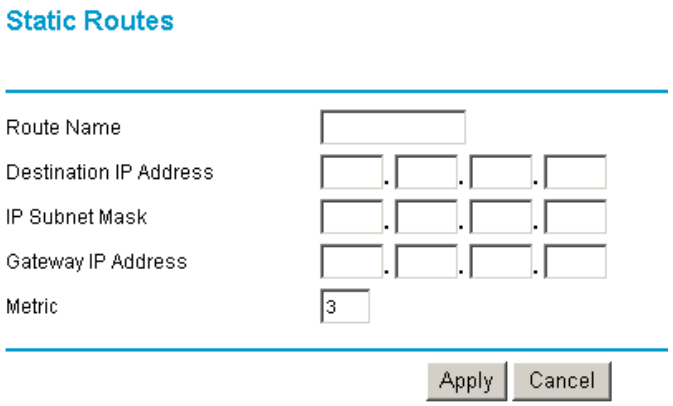
Only Accept The Following -- Accept all packets matched the custom MAC Restrict rules, Discard all other packets

MAC Address: The MAC Address applied to this MAC Restrict item.

3.3.7 Static Routes

Static Routes provide additional routing information to your router. Under normal circumstances, the router has adequate routing information after it has been configured for Internet access, and you do not need to configure additional static routes. You must configure static routes only for unusual cases such as configured VPN tunnel or multiple IP subnets located on your local network.

Press “Add” button to start add a custom static route:

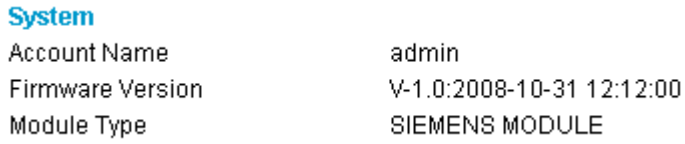


Route Name: This static route’s name, It is for identification purpose only
Destination IP Address: The packet’s destination IP Address
IP Subnet Mask: The subnet mask for this destination, If the destination is a single host, please input 255.255.255.255
Gateway IP Address: The gateway IP Address of this packet.
Metric: A number between 1 and 15, It represents the number of routers between your network and the destination. Usually, a setting of 2 or 3 works

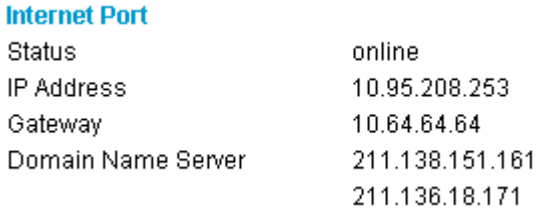
If you want to delete one custom static route, choose this item and press “Delete” button.

3.3.8 Router Status

This page displays the router's status information.



Account Name: The username to login the router.
Firmware Version: Software version information
Module Type: The wireless module used to get the Internet access



Status: the current Internet access status

At State --- System is initialize the module

Dialing --- System is dialing to ISP

Online --- System has got Internet access

IP Address: The local Internet IP Address
Gateway: The ISP gateway IP Address
Domain Name Server: The Domain Name Server (DNS) IP Address.

IP Address: the LAN port IP Address
DHCP: the DHCP server status
IP Subnet Mask: The LAN port subnet mask

Status: current PPTP client status.

Interface: The interface name of the PPTP tunnel when the tunnel is up.

Local Tunnel IP: The local tunnel IP Address when the tunnel is up.

Remote Tunnel IP: the PPTP server's tunnel IP Address when the tunnel is up.

Status: current L2TP client status.

Interface: The interface name of the L2TP tunnel when the tunnel is up.

Local Tunnel IP: The local tunnel IP Address when the tunnel is up.

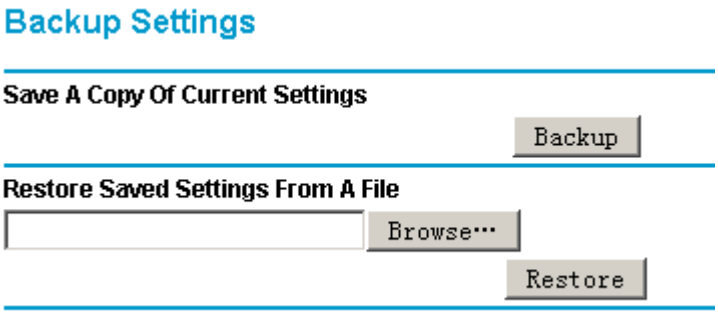
Remote Tunnel IP: the L2TP server's (LNS) tunnel IP Address when the tunnel is up.

3.3.9 Backup Settings

This function can save the router's current configuration to a file. You can restore the configuration with the file later.

Note:

Please do not edit the saved file.If the file used to restore configuration is not correct, the router will restore to factory default setting.

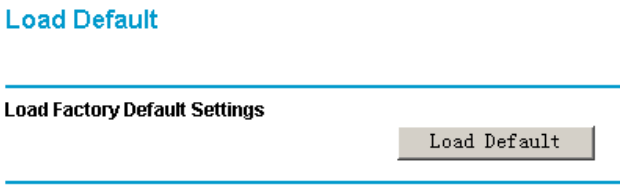


To save your configuration, click the "Backup" button, your browser will extract the configuration file from the router and will prompt you for a location on your computer to store the file. The default file name is "router-confnig.txt".You can also give the file a more meaningful name.

To restore your configuration from a saved file, enter the full path to the file on your computer or click the "Browse" button to browse to the file. When you have located it, click

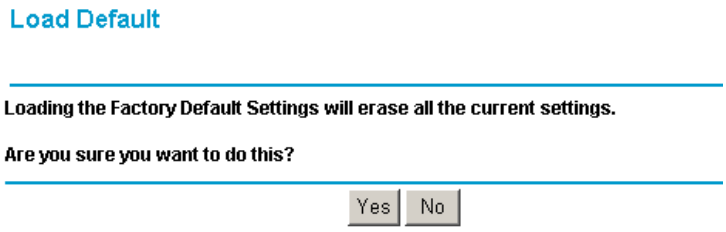
the “Restore” button to send the file to the router to restore configuration.

3.3.10 Load Default



It is sometimes desirable to restore the router to the factory default settings. This can be done by using the “Load Default” function, which will restore all factory settings.

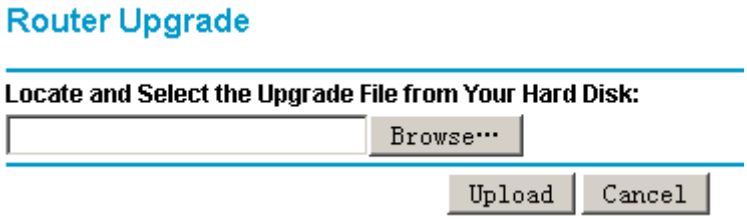
To load default settings, please click the “Load Default” button. A prompt page will give you a choice to give up this operation or continue. Click “YES” button to load default and “No” to give up.


Load Default
Loading the Factory Default Settings will erase all the current settings.
Are you sure you want to do this?
Yes
No

3.3.11 Router Upgrade

The software of the router is stored in FLASH memory, and can be upgraded as new software is released by Four-Faith. Upgrade files can be downloaded from the Four-Faith Web site(www.four-faith.com). If the upgrade file is compressed (.ZIP file or .RAR), you must first extract the binary (.IMG) file before sending it to the router. The upgrade file can be sent to the router using your browser.

To upgrade new firmware , click the “Browse” button and browse to the location of the binary (.IMG) upgrade file, then click “Upload” button to start upgrade.



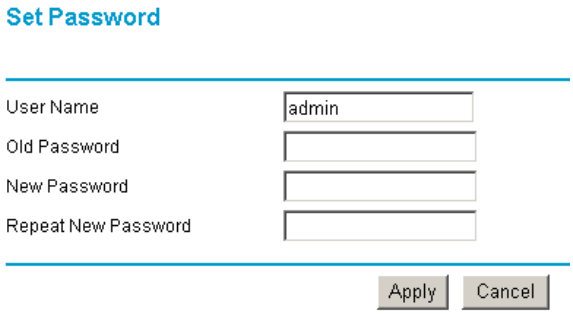
Note:

When uploading software to the Router, it is important not to interrupt the Web browser by closing the window, clicking a link, or loading a new page. If the browser is interrupted, it may corrupt the Router. It should not shutdown the power supply when uploading. When the upload is complete, your router will automatically restart and it will revert settings back to the factory defaults. The upgrade process will typically take about several minutes.

3.3.12 Set Password

The default username and password are both “admin” .

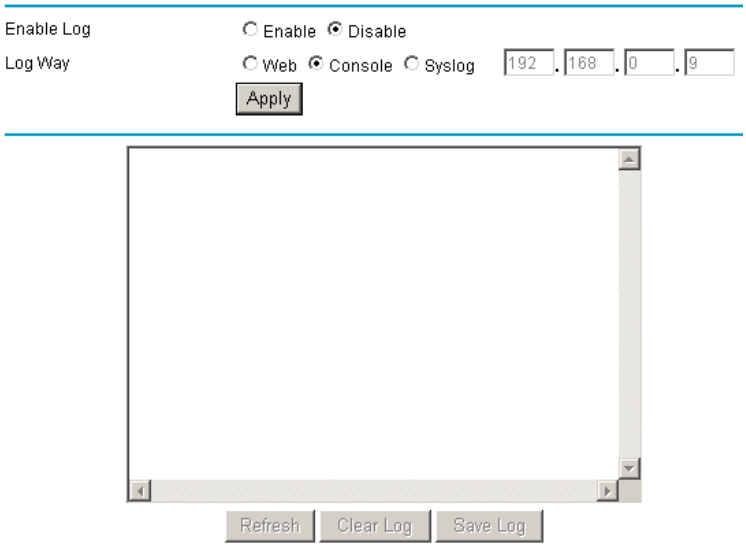
To change the username and password, type the new username ,old password and new password.



3.3.13 Logs

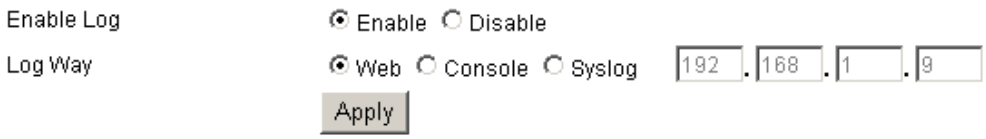
This function is used to debug the software, when there is some problem with the router, you can get the log information and send it to us to diagnose the problem. Normally this function should be disabled.

Logs

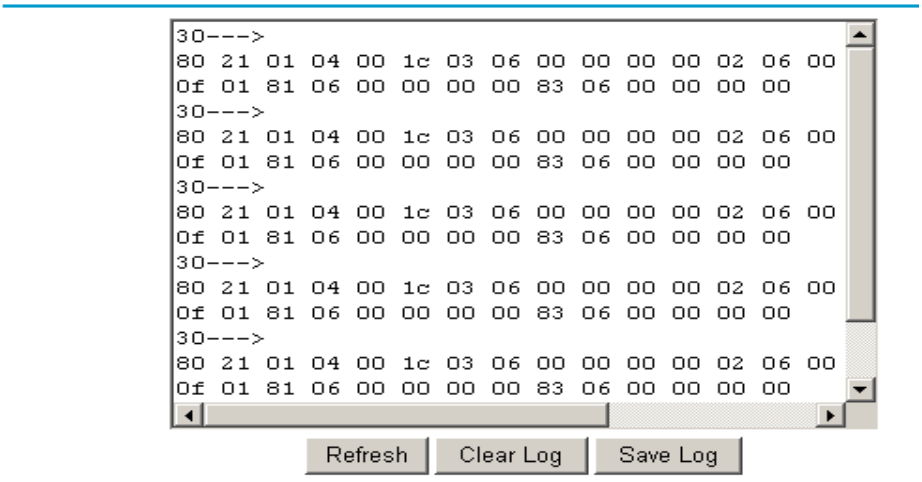


Enable Log: Enable or disable this function
Log Way: there are three log ways

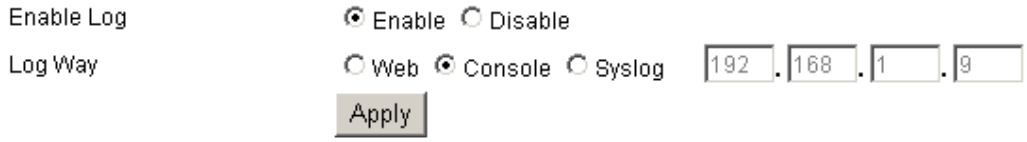
Web



The log message is displayed on this web page. You can save the log message to a file by click "Save Log" button.



Console

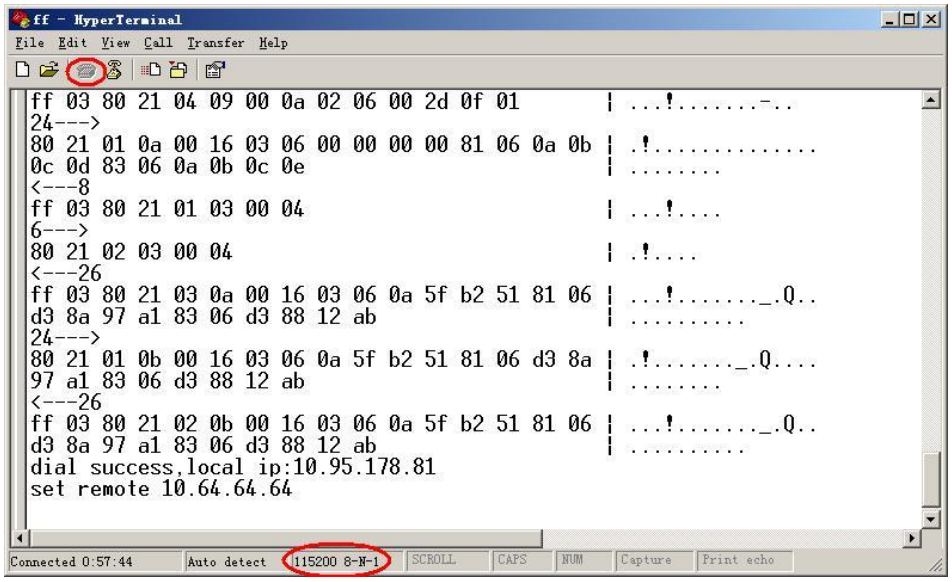


The log message is output to the console port.

To use this way, you should connect the router's console port and your PC's serial port with the supplied console cable. Then open hyper terminal with the following serial port settings:

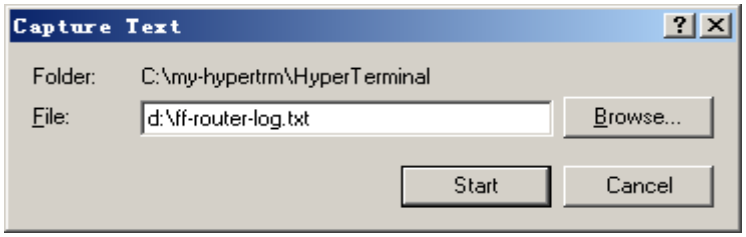
Baud : 115200 bps
Databit: 8
Parity : None
Stopbit: 1
Flow control: None

When you configure the serial port settings , press "call" button ,The router log message will be displayed.



You can capture the log message into a file:

From the menu, choose "Transfer" →"capture text"

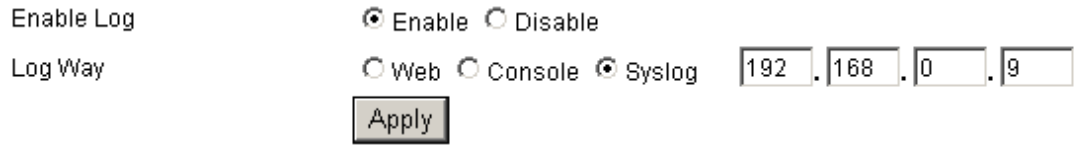


Input the log file name and press “start” button, the output message are now stored in the log file.

When enough message captured, you can stop capturing:

From the menu, choose “Transfer”→”capture text”→”stop”

Syslog



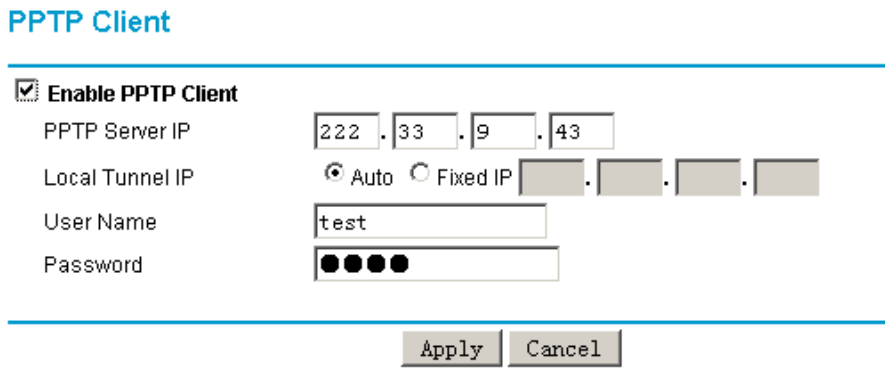
The log message is output to a syslog server, if choose this way, you should input a syslog server’s IP Address and run a syslog server program on it. .

3.3.14 Misc

Normally, the four-faith web config tool listens on port 80. If you want to change listening port, please configure “web config port” item.

To reboot the router , press the “Reboot” button.

3.3.15 PPTP Client



Enable PPTP Client: Enable or disable PPTP Client function

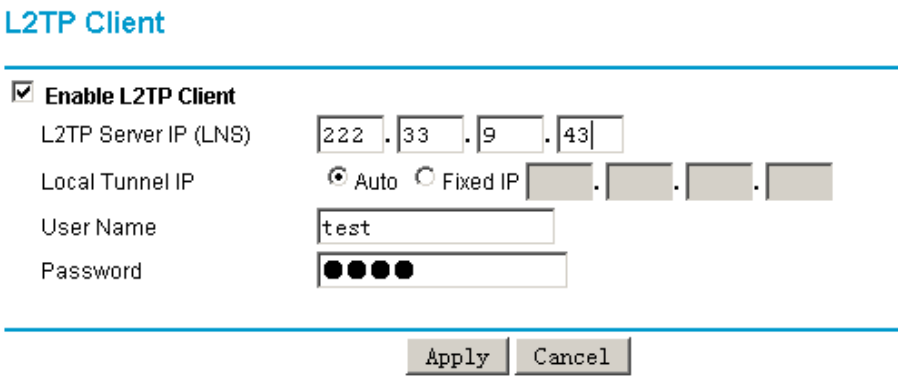
PPTP Server IP: The PPTP server's IP Address

Local Tunnel IP: The local tunnel IP Address, if you choose "Auto", the Address is allocated by the PPTP Server dynamically. You can also use the fixed local tunnel IP if the PPTP Server support

User Name: Username to login the PPTP Server.

Password: Password to log into the PPTP Server.

3.3.16 L2TP Client



Enable L2TP Client: Enable or disable L2TP Client function

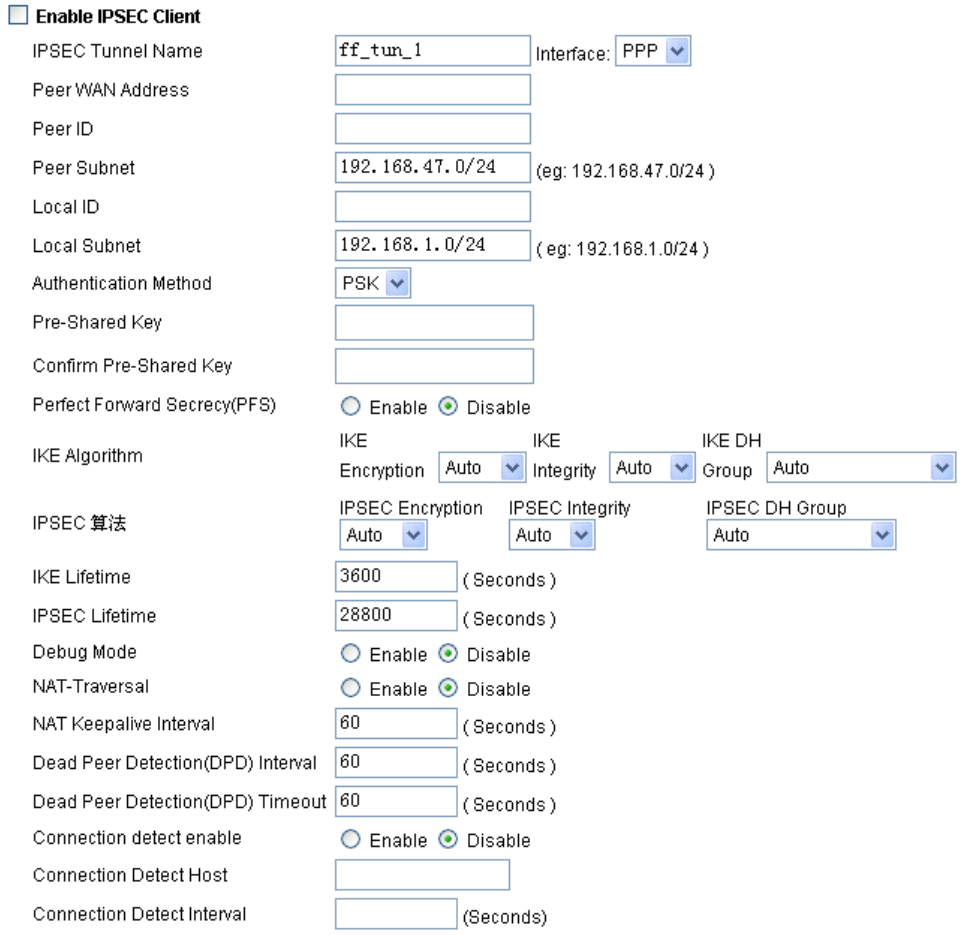
L2TP Server IP (LNS): The L2TP server's IP Address

Local Tunnel IP: The local tunnel IP Address, if you choose "Auto", the Address is allocated by the L2TP Server dynamically. You can also use the fixed local tunnel IP if the L2TP Server support

User Name: Username to login the L2TP Server.

Password: Password to login the L2TP Server.

3.3.17 IPSEC Client



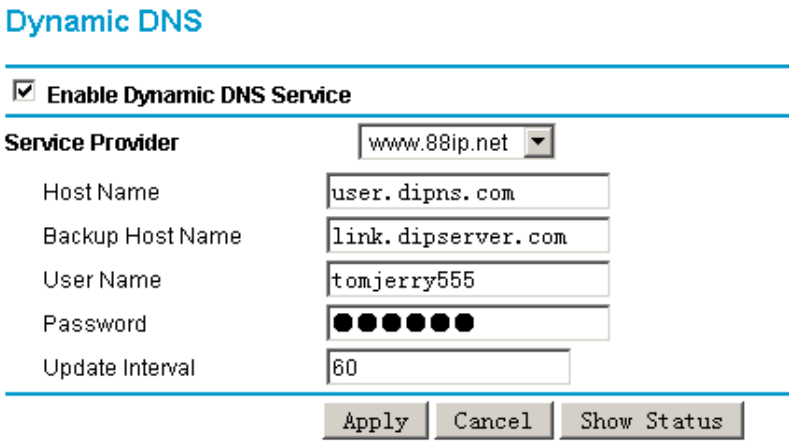
3.3.18 Dynamic DNS

If your network has a permanently assigned IP address, you can register a domain name and have that name linked with your IP address by public Domain Name Servers (DNS). However, if your Internet account uses a dynamically assigned IP address, you will not know in advance what your IP address will be, and the address can change frequently. In this case, you can use a commercial dynamic DNS service, which will allow you to register your domain to their IP address, and will forward traffic directed at your domain to your frequently-changing IP address.

The four-faith router currently support 88ip(www.88ip.net) and 3322(www.3322.org)

Dynamic DNS provider.

88ip:



Enable Dynamic DNS Service: Enable DDNS service

Service Provider: the DDNS service provider

Host Name: The 88ip provider's server hostname

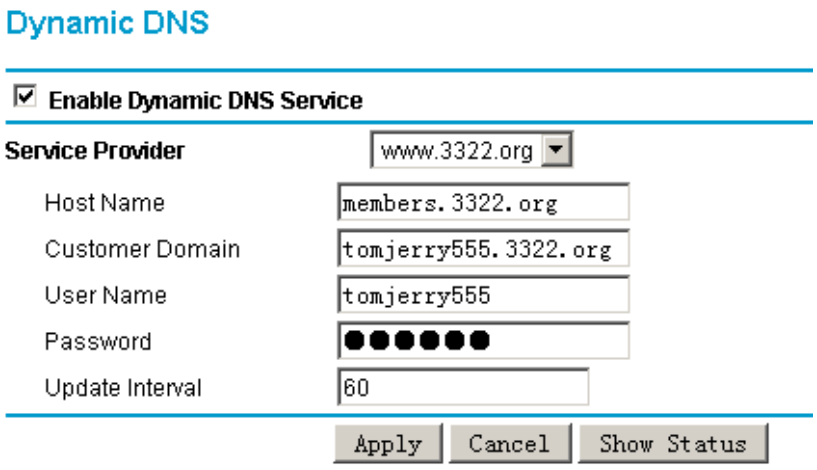
Backup Host Name: The 88ip provider's backup server hostname

User Name: Your 88ip account username

Password: Your 88ip account password

Update Interval: The time interval of IP Address update, unit is second

3322:



Enable Dynamic DNS Service: Enable DDNS service

Service Provider: the DDNS service provider

Host Name: The 3322 provider's server hostname

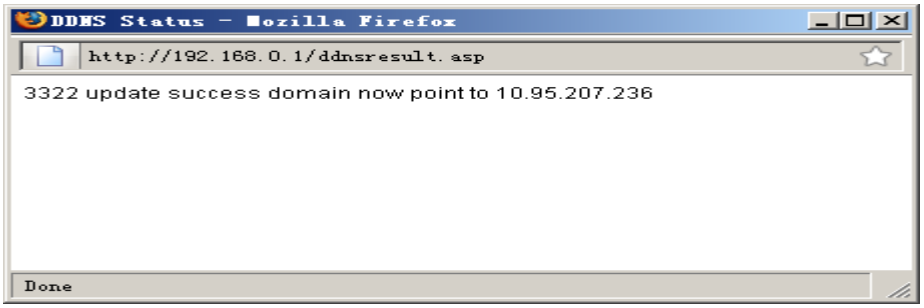
Customer Domain: Your custom 3322 domain name.

User Name: Your 3322 account username

Password: Your 3322 account password

Update Interval: The time interval of IP Address update.

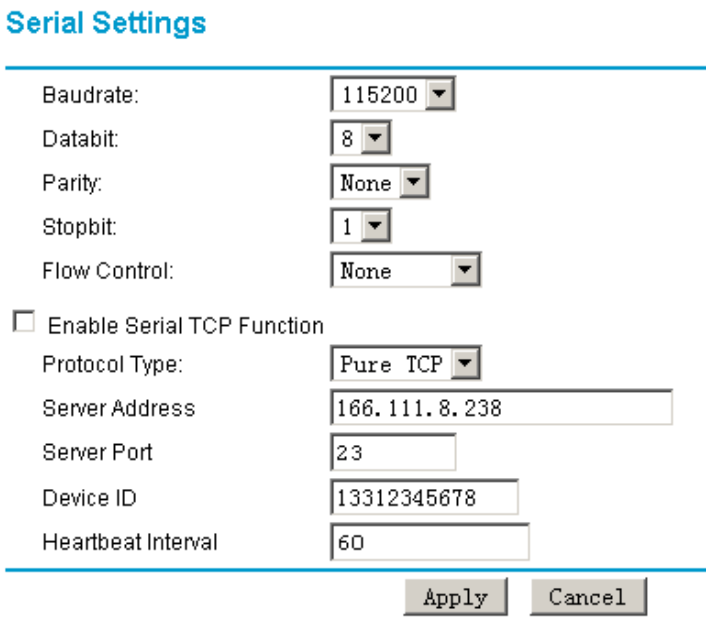
The “Show Status” button is used to display the current DDNS status.



The above DDNS status page shows the domain name tomjerry555.3322.org now point to IP Address 10.95.207.236

3.3.19 Serial Settings

There is a console port on Four-Faith router. Normally, this port is used to debug the router. This port can also be used as a serial port. The router has embedded a serial to TCP program. The data sent to the serial port is encapsulated by TCP/IP protocol stack and then is sent to the destination server. This function can work as a Four-Faith DTU (Data Terminal Unit). Please refer www.four-faith.com for more information about this product.



Baudrate: The serial port's baudrate

Databit: The serial port's databit

Parity: The serial port's parity

Stopbit: The serial port's stopbit

Flow Control: The serial port's flow control type.

Enable Serial TCP Function: Enable the serial to TCP function

Protocol Type: The protocol type to transmit data.

UDP(DTU) – Data transmit with UDP protocol , work as a Four-Faith DTU which has application protocol and hear beat mechanism.

Pure UDP – Data transmit with standard UDP protocol.

TCP(DTU) -- Data transmit with TCP protocol , work as a Four-Faith DTU which has application protocol and hear beat mechanism.

Pure TCP -- Data transmit with standard TCP protocol.

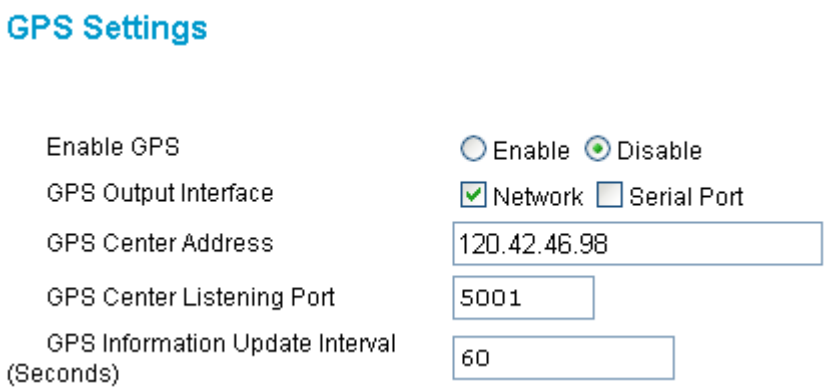
Server Address: The data service center's IP Address or domain name.

Server Port: The data service center's listening port.

Device ID: The router's identity number.

Heartbeat Interval: The time interval to send heart beat packet. This item is valid only when you choose UDP(DTU) or TCP(DTU) protocol type.

3.3.20 GPS Settings



Enable GPS: Enable or disable GPS function

GPS Output Interface: This item selects the GPS output interface including network and serial port

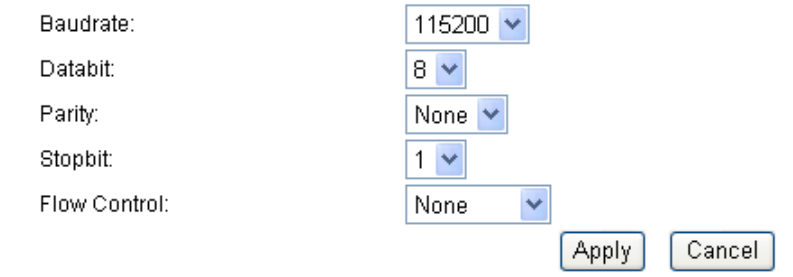
GPS Center Address: The GPS center's IP Address or domain name

GPS Center Listening Port: The GPS center's listening port.

GPS Information Update Interval(Seconds): The time interval between two GPS information update, unit is second

When GPS output interface is serial port, we should set the following serial port settings:

Serial Port Settings



Chapter 4 Appendix

The following steps describe how to setup Windows XP Hyper Terminal.

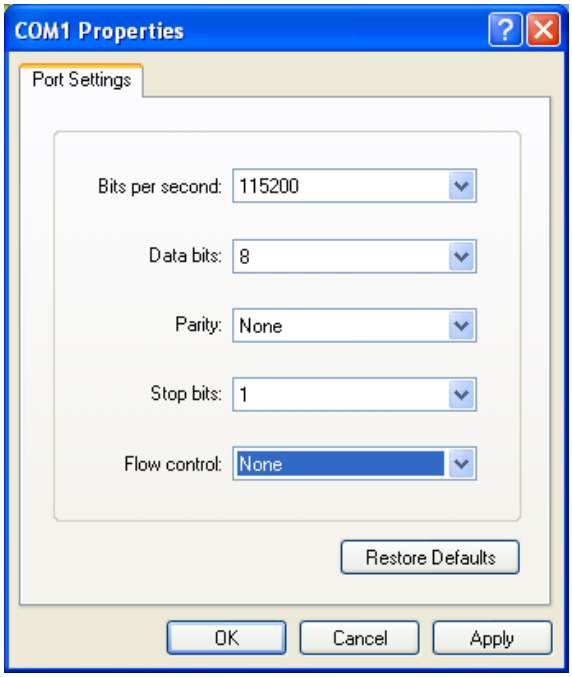
1. Press “Start”→”Programs”→”Accessories”→”Communications”→”Hyper Terminal”

2. Input connection name, choose “OK”

3. Choose the correct COM port which connects to modem, choose “OK”

4. Configure the serial port parameters as following, choose “OK”

Bits per second: 115200
Data bits: 8
Parity: None
Stop bits: 1
Flow control: None



5. Complete Hyper Terminal operation, It runs as following